In the Specification:

Page 1, before line 3, the paragraph beginning with "The invention pertains" insert the following titles and paragraph:

-- **PRIORITY CLAIM**

This is a U.S. national stage of application No. PCT/CH2004/000498, filed on 10 August 2004. Priority is claimed on the following application(s): Country: Switzerland, Application No.: 1465/03, Filed: 27 August 2003.

BACKGROUND OF THE INVENTION

1. Field of the Invention --

Please replace the paragraph beginning on page 1, line 3, with the following rewritten paragraph:

-- The invention pertains to a hydraulically controlled valve with at least one hydraulic drive having a control piston acting on a flow control device for controlling a flow of hydraulic oil to and from a consumer ~~according to the introductory clause of Claim 1~~. --

Page 1, before line 5, the paragraph beginning with "A load-holding brake", insert the following title:

2. Description of the Prior Art --

Please replace the paragraph beginning on page 1, line 5, with the following rewritten paragraph:

-- A load-holding brake valve which can be controlled by a hydraulic drive is known from ~~WO 97/32136 A1~~ U.S. Patent No. 6,098,647. The main piston of the load-holding brake valve is actuated by the plunger of a control piston. A control pressure moves this control piston against the pressure of a control spring. These types of load-holding brake valves are suitable for driving double-acting hydraulic consumers~~, for example,~~ which are subject to mechanical loads. Depending on the type of mechanical load, such devices tend to oscillate. Arrangements such as cranes with very long lift arms, for example, are known. ~~As the result of an~~ An impact, for example, may cause an oscillation ~~can be caused,~~ which, in turn, causes the volume flow rate of the hydraulic oil to fluctuate. Oscillations can also originate in the hydraulic system itself~~, however, when~~ during the beginning of the control of a movement ~~is begun~~ and/or when a movement is accelerated or delayed. As a result of such oscillations, the speed of the hydraulic consumer is no longer constant, ~~which means in turn that it becomes~~ thus making precise control of such movements difficult or impossible ~~to control such movements precisely~~. --

Please replace the paragraph beginning on page 1, line 17, with the following rewritten paragraph:

-- A directional control valve which is suitable for driving double-acting hydraulic consumers is known from ~~WO 02/075162 A1. It is disclosed here that the~~ U.S. Patent Application Publication No. 2004/079425 in which a slider piston of the directional control valve can be moved by at least one drive. A solution with two hydraulic drives is shown. A drive piston which can be moved by a control pressure against a spring is provided in each of these drives. This drive piston can, for example, move the slider piston of the directional control valve

by way of a piston rod. It is also possible for oscillation problems to occur in these types of arrangements. --

Page 2, before line 8, the paragraph beginning with "The invention is based", insert the following title:

-- **SUMMARY OF THE INVENTION** --

Please replace the paragraph beginning on page 2, line 11, with the following rewritten paragraph:

-- The task indicated above is accomplished according to the invention by a hydraulically controlled valve comprising a flow control device for controlling a flow of hydraulic oil to and from a consumer and a hydraulic drive, in which the hydraulic drive includes a housing part defining a primary control pressure chamber, a secondary control pressure chamber and a control pressure connection connected directly to the primary control pressure chamber. The hydraulic drive further includes a control plunger connected to a control piston, the control plunger acting on the flow control device for controlling the flow of hydraulic oil. The control piston is a stepped piston having a first step with a first diameter and a first end surface having a first area and a second step with a second diameter and a second hydraulically active end surface, the first end surface being subject to pressure in the primary control pressure chamber and the second end surface being subject to pressure in the secondary control pressure chamber. A control spring acts on the control piston such that the control piston is movable in the housing part against an urgency of the control spring in response to a control pressure present at the control pressure connection and a connection including a throttle point is arranged between said primary control

chamber and the secondary control chamber. ~~the features of Claim 1. Advantageous elaborations can be derived from the dependent claims.~~ --

Please replace the paragraph beginning on page 2, line 13, with the following rewritten paragraph:

-- Exemplary embodiments of the invention are explained in greater detail below on the basis of the drawing, wherein:

[[--]] Figure 1 is a partial longitudinal sectional view of ~~shows a diagram of the details essential to the invention on the basis of~~ an example of a load-holding brake valve according to the present invention;

[[--]] Figure 2 ~~shows~~ is a schematic diagram, not to scale, of a part of a control piston in a primary control pressure chamber of the valve shown in Figure 1;

[[--]] Figures 3a-3c ~~show~~ are hydraulic diagrams of the various operating states of a consumer which includes the valve of Figure 1;

[[--]] Figures 4 and 5 ~~show advantageous~~ are partial longitudinal sectional views of embodiments of the drive of a load-holding brake valve according to the present invention; and

[[--]] Figure 6 ~~shows an alternative advantageous~~ is a partial longitudinal sectional view of yet another embodiment according to the present invention. --

Page 3, before line 1, the paragraph beginning with "In Figure 1", insert the following title:

-- **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS** --

Please replace the paragraph beginning on page 3, line 1, with the following rewritten paragraph:

-- ~~In~~ Figure 1~~, which is a schematic diagram, 1 designates~~ shows a hydraulically controlled valve 1, which, in this exemplary embodiment, is a load-holding brake valve. The view of this hydraulically controlled valve 1 in the form of a load-holding brake valve does not reveal any of the internal structure of the valve, since this internal structure is not essential to the invention and is known in and of itself from ~~WO 97/32136 A1~~ U.S. Patent No. 6,098,647. Omitting a diagram of the internal structure is appropriate also because the parts of the hydraulically controlled valve 1 not essential to the invention could also be of a design completely different from that illustrated and described in ~~WO 97/32136 A1~~ U.S. Patent No. 6,098,647. The invention is therefore independent of a specific design of the load-holding brake valve and thus completely independent of the design of the valve 1. The only essential point is that the hydraulically controlled valve 1 can be hydraulically controlled by at least one hydraulic drive and that the valve 1 has a flow-control device 2, by which the flow of hydraulic oil from and to a consumer can be controlled. This flow-control device 2 can be controlled by a hydraulic drive 3. The parts of this drive 3 essential to its function include a control plunger 4, which is part of a control piston 5, which acts on the flow-control device 2. If the hydraulically controlled valve 1 is a load-holding brake valve, also called a countertorque brake valve, the flow-control device 2 ~~consists~~ may, for example, ~~of~~ include a pilot valve and a main valve. If the valve 1 is of a different design, different parts will be present. In the case of a directional control valve according to ~~WO 02/075162 A1~~ U.S. Patent Application Publication No. 2004/079425, for example, the control plunger 4 acts directly on a slide piston. --

Please replace the paragraph beginning on page 3, line 19, with the following rewritten paragraph:

-- A side view of the control piston 5 is shown. It is designed according to the invention as a stepped piston, the inventive features of which are described below. It should be mentioned beforehand, however, that a control pressure connection X is present in a housing part 6 on the left side of the hydraulically controlled valve 1. A bore, designated here the primary control pressure chamber 7, is provided in the housing part 6 at the control pressure connection X. --

Please replace the paragraph beginning on page 4, line 1, with the following rewritten paragraph:

-- According to the invention, the control piston 5 has a first step 8 on the end facing the control pressure connection X~~; the~~. The diameter D_8 of ~~this~~ the first step 8 is smaller than the inside diameter of the primary control pressure chamber 7 but only just enough to allow the piston to move. A control pressure P_X, which is present at the control pressure connection X and which therefore acts in the primary control pressure chamber 7, exerts a force F on the control piston 5. This force is equal to the product of the control pressure P_X and the end surface area A_8 of the first step 8, where the end surface area A_8 of the first step 8 is the product of half the diameter D_8 squared times π. The control pressure P_X therefore produces a force F by which the control piston 5 is pushed against a control spring 9. The distance which the control piston 5 travels therefore depends on the spring rate of the control spring 9. --

Please replace the paragraph beginning on page 5, line 1, with the following rewritten paragraph:

-- In the following description of the function of the device, it is assumed that the system is in a state of equilibrium, in which, as a result of a certain control pressure P_X, the control piston 5 has taken up a certain position. A state of equilibrium also means that the control pressure P_X is present both in the primary control pressure chamber 7 and in the secondary control pressure chamber 11, because the pressure has become equalized through the connection 12 containing the throttle point 13. When the control pressure P_X is now increased, the force acting on the end surface A_8 also increases, which causes the control piston 5 to move toward the right against the control spring 9. ~~At this moment, however,~~ When the control pressure P_X is initially increased the higher control pressure P_X is present only in the primary control pressure chamber 7. Because of the throttle point 13, the pressure in the secondary control pressure chamber 11 cannot increase immediately. On the contrary, when the higher control pressure P_X in the primary control pressure chamber 7 causes the control piston 5 to move toward the right, the pressure in the secondary control pressure chamber 11 will fall, which opposes the movement of the control piston 5 toward the right. Only after hydraulic oil has been able to flow from the primary control pressure chamber 7 into the secondary control pressure chamber 11 through the connection 12 with the throttle point 13 will this pressure drop be compensated, and only after the arrival of additional hydraulic oil will it finally be achieved that the pressure in the secondary control pressure chamber 11 is exactly the same as the control pressure P_X also present in the primary control pressure chamber 7. Thus a state of equilibrium is reached again, in which the control piston 5 has now taken up a new position corresponding to the higher control pressure P_X. --

Please replace the paragraph beginning on page 5, line 21, with the following rewritten paragraph:

-- During the first moment, therefore, a higher control pressure P_X acts only on the smaller end surface A_8. Only after the pressure has equalized across the throttle point 13 does the higher control pressure P_X act also on the hydraulically active surface of the second step 10 and therefore also on the surface area A_{10}, which is derived directly from the diameter D_{10}. It follows from this that there is a certain delay in the movement of the control piston 5 or that this movement is damped. As a result, the task of the invention is accomplished in a surprisingly simple way, for, as a result of this damping, the hydraulically controlled valve 1 has become insensitive to internally or externally induced oscillations, without any impairment to its response sensitivity, which could not be excluded in the case of the metering valve according to ~~WO 97/32136 A1~~ U.S. Patent No. 6,098,647. --

Please replace the paragraph beginning on page 6, line 7, with the following rewritten paragraph:

-- In a specific example, the ~~The~~ diameter D_8 is ~~can be, for example,~~ 14 mm[[;]] and the diameter D_{10} ~~can be~~ is 20 mm. The hydraulically active surface areas A_8 and A_{10} will then be 153.9 and 314.2 mm^2, respectively, which results in an area ratio of 1:2.04. This indicates how large the amplitude of the oscillations which can be leveled out can be. --

Please replace the paragraph beginning on page 6, line 15, with the following rewritten paragraph:

-- There is therefore no need for the measures described in ~~WO 97/32136 A1~~ U.S. Patent No. 6,098,647 to prevent the excitation of oscillations, such as the use of a nozzle and a metering valve which can be adjusted by ~~means of~~ an adjusting spindle. In this sense the inventive solution is extremely simple. The need to select the size of the nozzle for the specific application and to install it is also eliminated, nor is there any need for the time-consuming work of adjusting the metering valve. --

Please replace the paragraph beginning on page 6, line 20, with the following rewritten paragraph:

-- It is advantageous to use the first step 8 of the control piston 5 in conjunction with the associated bore in the housing part 6, which forms the primary control pressure chamber 7, as the connection 12 containing the throttle point 13. This embodiment is shown in Figure 2. This diagram is not to drawn to scale for the sake of clarity. The primary control pressure chamber 7 has an inside diameter D_7. The first step 8 of the control piston 5, as already shown in Figure 1, has an outside diameter D_8. Thus a ring-shaped gap 14 is present ~~in~~ between the outside diameter D_8 and the inside diameter D_7, the dimensions of which are defined by the inside diameter D_7 and the outside diameter D_8. When this ring-shaped gap 14 is used as the throttle point 13, a remarkable advantage is obtained. Whereas a nozzle used as a throttle point 13 can change its behavior over the course of time as a result of the deposition of suspended matter, which causes a change in the throttling action, the ring-shaped gap 14 is cleaned repeatedly of

deposits of suspended manner by the movement of the control piston 5 during the operation of the hydraulically controlled valve 1 (Figure 1). The throttling action thus remains constant. --

Please replace the paragraph beginning on page 7, line 14, with the following rewritten paragraph:

-- Figures 3a-3c show a hydraulic circuit with a consumer 20~~, which, in~~. In the example illustrated here, the consumer 20 is a double-acting cylinder with a pressure space at the bottom of the piston and another pressure space on the piston rod side. ~~It would also be possible, however, to operate a hydraulic motor as the~~ The consumer 20 may alternatively be a hydraulic motor instead of the double-acting cylinder. The hydraulic circuit is shown in three different operating states, namely, the neutral position in Figure 3a, the load-raising mode in Figure 3b, and the load-lowering mode in Figure 3c. The individual elements of the hydraulic circuit which are present are the same in all cases. The hydraulic circuit is known in and of itself and is shown here because the inventive action of the inventive hydraulically controlled valve can be described clearly on the basis of this circuit. --

Please replace the paragraph beginning on page 8, line 1, with the following rewritten paragraph:

-- A directional control valve 21 and a load-holding brake valve 22, which serve to control the consumer 20, are shown in all three Figures 3a-3c. The load-holding brake valve 22 can be of the design described in, for example, ~~WO 97/32136 A1~~ U.S. Patent No. 6,098,647, but it is equipped with a hydraulic drive 3 designed in accordance with the invention. The directional control valve 21 can be one of the types described in ~~WO 02/075162 A1~~ U.S. Patent

Application Publication No. 2004/079425, for example, but it is also equipped with hydraulic drives 3' designed in accordance with the invention. --

Please replace the paragraph beginning on page 8, line 19, with the following rewritten paragraph:

-- In the neutral position of the directional control valve 21 shown in Figure 3a, the connection in the directional control valve 21 between the pump 24, the bottom pressure space of the consumer 20, the piston-side pressure space of the consumer, and the return flow to the tank 25 is open. This does not apply in general and is different in the case of, for example, the directional control valve according to ~~WO 02/075162 A1~~ U.S. Patent Application Publication No. 2004/079425. This is not important, however, with respect to the invention. For the present circuit, the only important point in terms of the correct control of the consumer 20 is that, in the neutral position, the load-holding brake valve 22 is closed, so that the consumer remains in its original position. That the load-holding brake valve 22 remains closed can be derived directly from the fact that the control pressure P_X (Figure 1) is approximately the same as the pressure in the piston rod-side pressure space of the consumer 20, which for its own part is approximately the same as atmospheric pressure, because the connection to the tank 25 is open. --

Please replace the paragraph beginning on page 9, line 8, with the following rewritten paragraph:

-- Figure 3b shows the load-raising mode. This is reached by the actuation of ~~one of the drives~~ the drive 3' shown on the right side of the directional control valve 21 by a control pressure P_{St}. The slide piston of the directional control valve 21 is moved in such a way that

hydraulic oil can flow from the pump 24 through the directional control valve 21 to the bottom pressure space of the consumer 20 and from the piston rod-side pressure space of the consumer 20 to the tank 25. The pump 24 therefore conveys hydraulic oil from the tank 25 to the bottom side of the consumer 20, where the first check valve 26 and the second check valve 28 or the check valve 28' are automatically actuated by the pump pressure. Because the hydraulic oil is conveyed to the bottom pressure space of the consumer 20, hydraulic oil is simultaneously displaced from the piston rod-side pressure space of the consumer 20 and flows via the directional control valve 21 to the tank 25. The load-holding brake valve 22 has no function here. This is related to the fact that the active control pressure P_X is very low, because the hydraulic oil flows from the piston rod-side of the consumer 20 to the pressureless tank 25, as explained in connection with the neutral position. Thus the oscillation-damping action of the drive 3 of the load-holding brake valve 22 also remains without effect. --

Please replace the paragraph beginning on page 10, line 8, with the following rewritten paragraph:

-- Figure 3c shows the load-lowering mode. Here the pump 24 conveys hydraulic oil to the piston rod-side pressure space of the consumer 20. This is achieved by the application of a control pressure P_{St} to the ~~other~~ drive 3' on the left side of the directional control valve 21. As a result, the connection in the directional control valve 21 from the pump 24 to the piston rod-side pressure space of the consumer 20 is open, and the connection from the bottom pressure space of the consumer 20 to the tank 24 is also open. The control pressure P_X acting on the load-holding brake valve 22 is now high. It is determined by the pressure generated by the pump and the pressure loss across the directional control valve 21. --

Please replace the paragraph beginning on page 10, line 16, with the following rewritten paragraph:

-- Because hydraulic oil is flowing to the piston rod-side space of the consumer 20, hydraulic oil is now forced to flow from the bottom pressure space of the consumer 20 to the tank ~~24~~ 25. The second check valve 28, which is parallel to the load-holding brake valve 22, or the check valve 28', however, is closed in this load situation. Hydraulic oil can therefore flow from the bottom pressure space of the consumer 20 only if the load-holding brake valve 22 is opened. This is done by the control pressure P_X, the value of which is based on the proportional adjustment of the directional control valve 21 by the control pressure P_{St}. The goal is thus achieved in the conventional manner that the hydraulic oil can leave the bottom pressure space of the consumer 20. The quantity leaving the consumer 20 is larger than the quantity simultaneously entering the piston rod-side pressure space, because the cross section on the piston rod side is different from that on the bottom side. --

Please replace the paragraph beginning on page 11, line 9, with the following rewritten paragraph:

-- If the drives 3' of the directional control valve 21 are designed as intended by the invention, the valve has a damping effect with respect to the action of the control pressure P_{St} on the directional control valve 21, which eliminates ~~has the result that, in this way, too,~~ the tendency for oscillations to occur in the consumer 20 ~~are eliminated~~. It is thus impossible for a rapid increase in the control pressure P_{St} to cause oscillations in the consumer 20. Oscillations which are excited by alternating loads on the consumer 20, however, are damped simultaneously by the drive 3 of the load-holding brake valve 22. --

Please replace the paragraph beginning on page 11, line 22, with the following rewritten paragraph:

-- Figure 4 shows an advantageous embodiment of a drive 3, which can be used in a load-holding brake valve 22 (Figures 3a-3c). Figure 4 is the same as Figure 1 except that it also contains ~~this advantageous embodiment. This consists in that~~ a pressure relief check valve 30 ~~is~~ installed between the primary control pressure chamber 7 and the secondary control pressure chamber 11. This makes it possible for the pressure to be released from the secondary control pressure chamber 11 to the primary control pressure chamber 7. The pressure difference at which the pressure relief check valve 30 opens is determined by a spring 31. --

Please replace the paragraph beginning on page 12, line 15, with the following rewritten paragraph:

-- Figure 5 is basically similar to Figure 4, except that it shows the ring-shaped gap 14 instead of the connection 12 with the throttle point 13. Here an additional advantageous embodiment is illustrated, in which a longitudinal groove 33 is cut into the cylindrical lateral surface of the first step 8 at the end facing the secondary control pressure chamber 11. As a result of this measure, the effective length of the ring-shaped gap 14 is limited[[;]] and the flow of hydraulic oil between the primary control pressure chamber 7 and the secondary control pressure chamber 11 is facilitated~~; and thus~~. Thus the action of the damping is limited. In this way, the damping action of a hydraulically controlled valve 1 can be very easily adapted to the concrete application by adjusting the length of the longitudinal groove 33 to suit the circumstances. --

Please replace the paragraph beginning on page 13, line 6, with the following rewritten paragraph:

-- What is shown is the control piston 5 with its first step 8 and its second step 10, which, as previously explained, have the diameters D_8 and D_{10}, respectively. Also shown are the primary control pressure chamber 7 and the secondary control pressure chamber 11. In contrast to Figure 5, the pressure relief check valve 30 in this exemplary embodiment is located inside the hydraulic drive 3. In contrast to the device explained on the basis of Figures 1, 4, and 5, the hydraulic drive 3 does not have a separate housing part 6. Instead, the hydraulic drive 3 is located inside ~~the~~ a housing 40 of the hydraulically controlled valve ~~to be controlled (Figure 1), this housing being designated by the reference number 40~~ in Figure 6. A cover 41 can be screwed into the housing 40, which is open toward the left. An opening is present in this cover 41~~; this~~. This opening represents the control pressure connection X, which, as also in the previous exemplary embodiments, is connected to the primary control pressure chamber 7. --

Please replace the paragraph beginning on page 13, line 17, with the following rewritten paragraph:

-- It is advantageous here to install an orifice 42 or some other type of restriction between the control pressure connection X and the primary control pressure chamber 7, namely, inside the cover 41. This orifice 42 has the effect of limiting the flow, which means in turn that, when the control pressure P_X increases very quickly, the increase in the pressure in the primary control pressure chamber 7 is delayed. Because this delay of the pressure increase implies a damping

effect, an additional advantageous measure is obtained in terms of solving the problem in question. --

Please replace the paragraph beginning on page 14, line 1, with the following rewritten paragraph:

-- Because the inventive damping occurs by way of the throttle point 13 (Figure 1) or the ring-shaped gap 14 and because the damping by the orifice 42 is a supplemental effect, it is advantageous for the damping effect by the orifice 42 to be much smaller than the damping effect by the throttle point 13 (Figure 1) or the ring-shaped gap 14. It has been found that an optimal effect is obtained when, for example, the dimensions of the ring-shaped gap 14 are calculated ~~in~~ such ~~a way~~ that the gap 14 corresponds to a nozzle with a diameter of 0.1 mm, whereas the orifice 42 corresponds to a nozzle with a diameter of 0.3-0.6 mm. At a diameter ratio of 1:3-1:6, an area ratio of 1:9-1:36 is obtained. This clearly shows that the damping by the throttle point 13 (Figure 1) or by the ring-shaped gap 14 is dominant. The orifice 42 provides an additional improvement. --

Please amend the title on page 16 as follows:

-- ~~CLAIMS~~ What is claimed is: --

Please replace the abstract with the new abstract as shown on a separate page attached hereto.